

REMARKS

Claims 60, 61, 63, 65-72, 74, 76-84, 86, 88-97, 99 and 101-125 are currently pending. Claims 1-59, 62, 64, 73, 75, 85, 87, 98 and 100 are canceled without prejudice or disclaimer. Applicants reserve the right to pursue the subject matter of any or all of these canceled claims in one or more continuing applications.

Claims 60, 65, 71, 76, 83, 88, 94 and 101 are currently amended. Independent claims 60, 71, 83 and 94 are amended to incorporate limitations of previously-filed dependent claims. In particular, independent claim 60 now includes the limitations of dependent claims 62 and 64, independent claim 71 now includes the limitations of dependent claims 73 and 75, independent claim 83 now includes the limitations of dependent claims 85 and 87 and independent claim 94 now includes the limitations of dependent claims 98 and 100. Further support for the amendments to independent claims 60, 71, 83 and 94 can be found at Figure 12 and elsewhere throughout the specification as originally filed. Claims 65, 76, 88 and 101 are amended to correct dependencies. Accordingly, no new matter is added by the instant amendments.

Claims 118-125 are new. Support for these new claims can be found throughout the specification as originally filed. For example, support for new claims 118-125 can be found at page 10, lines 15-20 and elsewhere throughout the specification. Accordingly, new claims 118-125 do not introduce new matter.

Rejection of claims 109-111 under 35 U.S.C. § 112, second paragraph

The Examiner rejects claims 109-111 under 35 U.S.C. § 112, second paragraph as allegedly indefinite. In particular, the Examiner asserts that it is unclear how a method of sequencing further defines a method of making an array.

Applicants submit that claims 109-111 are definite as written. Specifically, a skilled artisan would recognize that sequencing the material on an array is often times an aspect of making an array. For example, when an array comprises randomly distributed sequences, as recited in claim 94, it can be important to specifically identify the sequences present at one or more locations on the array as part of the manufacturing process. As an alternative, identification of the sequences present at one or more locations on the array can be performed subsequent to using the array, however, in many cases, identifying the location of one or more sequences on the

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array at the time of its manufacture is preferred. As such, a skilled artisan would recognize sequencing as further defining a method of making an array.

In view of the foregoing remarks, Applicants respectfully request that the Examiner withdraw the rejection of claims 109-111 under 35 U.S.C. § 112, second paragraph.

Rejection of claims 60, 61, 63, 66, 68, 69, 71, 72, 74, 77, 79, 80, 82-84, 86, 89, 91 and 92 under 35 U.S.C. § 102(e)

The Examiner rejects claims 60, 61, 63, 66, 68, 69, 71, 72, 74, 77, 79, 80, 82-84, 86, 89, 91 and 92 under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,680,206 (McDevitt et al.). In particular, the Examiner asserts that McDevitt et al. disclose arrays and methods of making arrays having a surface with first and second assay locations separated by channels that connect cavities in each row, wherein the first and second assay locations have wells containing single randomly distributed microspheres. The Examiner also asserts that McDevitt et al. disclose the additional limitations of claims 61, 63, 66, 68, 69, 72, 74, 77, 79, 80, 82, 84, 86, 89, 91 and 92.

Applicants submit that McDevitt et al. do not disclose all of the limitations of any of the above-rejected claims. McDevitt et al. relates to an array of cavities, wherein each cavity has a bead included therein. These cavities, which are equated by the Examiner to the depressions recited in claim 1, are regularly spaced with respect to each other. McDevitt et al. do not disclose first and second assay locations each comprising a plurality of depressions, and in particular, first and second assay locations separated from each other by a distance that is larger than the distance separating the depressions from each other. Furthermore, McDevitt et al. do not disclose a first and second assay location separated by a distance, wherein the distance comprises a gasket. Additionally, McDevitt et al. do not disclose a plurality of depressions formed at an end of an optical fiber bundle. As such, for at least any one of the above reasons, McDevitt et al. do not disclose all of the elements of any of the above-rejected claims.

In view of the foregoing remarks and amendments, Applicants respectfully request that the Examiner withdraw the rejection of claims 60, 61, 63, 66, 68, 69, 71, 72, 74, 77, 79, 80, 82-84, 86, 89, 91 and 92 under 35 U.S.C. § 102(e).

Rejection of claims 60-117 under 35 U.S.C. § 103(a)

The Examiner rejects claims 60-117 as allegedly being obvious over U.S. Patent No. 6,327,410 (Walt et al.) in view of U.S. Patent No. 5,807,522 (Brown et al.). In particular, the Examiner asserts that Walt et al. disclose an array having a first and second assay location each having a plurality of depressions, wherein the depressions contain single microspheres having both genomic and non-genomic DNA. The Examiner further asserts that the assay locations of Walt et al. are not spatially separated but are identifiable manually. The Examiner then contends that the disclosure of Brown et al., which allegedly describes assay locations separated by a gasket, can be combined with the disclosure of Walt et al. to arrive at the elements of the independent claims. The Examiner asserts that a skilled artisan would have been motivated to combine the disclosures of Brown et al. and Walt et al. in order to segregate microsphere subpopulations to provide spatial encoding and multi-sample testing without cross contamination. Finally, the Examiner contends that the above-recited references disclose the additional elements recited in the dependent claims.

Applicants submit that claims 60-117 are not obvious over Walt et al. in view of Brown et al. Brown et al. describe a system for spotting arrays onto a porous surface overlaid on a non-porous backing. Brown et al. utilize a flowable silicone material, which absorbs into the porous surface, in order to isolate individual array grids spotted on the surface so as to prevent cross contamination between array grids when a sample is applied to the porous material (see column 12, lines 16-36, column 15, lines 30-34 and Figure 11). Walt et al. describe various array systems, including extremely high density fiber optic arrays. However, Walt et al. do not disclose first and second assay locations separated from each other by a distance that is greater than the distance separating the depressions formed at the end of the fiber optic bundles. Although the Examiner states that a skilled artisan would adapt arrays disclosed by Walt et al. using the disclosure of Brown et al. in order to arrive at the claimed invention, it is clear that such adaptations would not work in practice. First, there is insufficient distance between the closely packed fibers described in Walt et al. to accommodate a gasket. Even assuming, *arguendo*, that the distance between fibers does provide sufficient space to deposit a gasket, the limitation of the independent claims, which recites that "the depressions of said first plurality of depressions and the depressions of said second plurality of depressions are separated from each

other by a distance that is less than the distance separating said first and second assay locations,” would still not be met. Because Walt et al. do not disclose spaces free of fibers that separate assay locations at the array surface, there is no other space on the array surface to accommodate a gasket. Brown et al do not cure this deficiency because they do not teach or suggest a method for constructing an array having fiber optic bundles with sufficient spacing between fibers to accommodate a gasket. In addition to the foregoing, if one were to arbitrarily apply a gasket to the surface of an array disclosed by Walt et al., not only would it obstruct many of the depressions present at the end of the optical fibers, but also, it would fail to meet the limitation of the independent claims requiring that the distance between assay locations comprise the gasket. Accordingly, for at least the foregoing reasons, a skilled artisan would not adapt the arrays disclosed by Walt et al. using the disclosure of Brown et al. as argued by the Examiner.

In view of the foregoing remarks, Applicants respectfully request that the Examiner withdraw the rejection of claims 60-117 under 35 U.S.C. § 103(a).

Rejection of claims 65, 66, 67, 70, 75, 76, 78, 81, 87, 88, 90, 93 and 94-109 under 35 U.S.C. § 103(a)

The Examiner rejects claims 65, 66, 67, 70, 75, 76, 78, 81, 87, 88, 90, 93 and 94-109 as allegedly being obvious over McDevitt et al. in view of Brown et al. In particular, the Examiner asserts that McDevitt et al. disclose arrays and methods of making arrays having a surface with first and second assay locations separated by channels that connect cavities in each row, wherein the first and second assay locations have wells containing single randomly distributed microspheres. The Examiner then contends that the disclosure of Brown et al., which allegedly describes assay locations separated by a gasket, can be combine with the disclosure of McDevitt et al. to arrive at the elements of the above-rejected claims. The Examiner asserts that a skilled artisan would have been motivated to combine the disclosures of Brown et al. and McDevitt et al. in order to obtain multi-sample testing without cross contamination.

Applicants submit that claims 65, 66, 67, 70, 75, 76, 78, 81, 87, 88, 90, 93 and 94-109 are not obvious over McDevitt et al. in view of Brown et al. In particular, McDevitt et al. do not disclose a first assay location having a first plurality of depressions formed at an end of an optical fiber bundle and a second assay location having a second plurality of depressions formed at an

end of an optical fiber bundle as recited in independent claims. Brown et al. do not disclose this limitation. Accordingly, the combination of McDevitt et al. and Brown et al. does not disclose all of the limitations of claims 65, 66, 67, 70, 75, 76, 78, 81, 87, 88, 90, 93 and 94-109.

In view of the foregoing remarks, Applicants respectfully request that the Examiner withdraw the rejection of claims 65, 66, 67, 70, 75, 76, 78, 81, 87, 88, 90, 93 and 94-109 under 35 U.S.C. § 103(a).

Rejection of claims 62, 73, 85, 94-99 and 102-117 under 35 U.S.C. § 103(a)

The Examiner rejects claims 62, 73, 85, 94-99 and 102-117 as allegedly being obvious over McDevitt et al. in view of Walt et al. In particular, the Examiner asserts that McDevitt et al. disclose arrays and methods of making arrays having a surface with first and second assay locations separated by channels that connect cavities in each row, wherein the first and second assay locations have wells containing single randomly distributed microspheres. The Examiner then contends that the disclosure of Walt et al. disclose an array having a first and second assay location each having a plurality of depressions, wherein the depressions contain single microspheres having both genomic and non-genomic DNA. The Examiner also contends that certain arrays disclosed by Walt et al. are made using extremely high density fiber optic bundles. The Examiner asserts that a skilled artisan would have been motivated to combine the disclosures of McDevitt et al. and Walt et al. in order to obtain extremely high density fiber optic arrays having separated first and second assay locations.

Applicants submit that claims 62, 73, 85, 94-99 and 102-117 are not obvious over McDevitt et al. in view of Walt et al. In particular, McDevitt et al. do not disclose a first assay location being separated from a second assay location by a distance, wherein the distance separating the assay locations comprises a gasket as recited in independent claims. Walt et al. do not disclose this limitation. Accordingly, the combination of McDevitt et al. and Walt et al. does not disclose all of the limitations of claims 62, 73, 85, 94-99 and 102-117.

In view of the foregoing remarks, Applicants respectfully request that the Examiner withdraw the rejection of 62, 73, 85, 94-99 and 102-117 under 35 U.S.C. § 103(a).

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No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

Co-Pending Applications of Assignee

Applicant wishes to draw the Examiner's attention to the following co-pending applications of the present application's assignee.

Serial Number	Title	Filed
10/856,039	METHODS OF DETECTING TARGETS ON AN ARRAY	May 27, 2004

CONCLUSION

Applicants believe that all outstanding issues in this case have been resolved and that the present claims are in condition for allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is invited to contact the undersigned at the telephone number provided below in order to expedite the resolution of such issues.

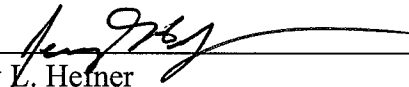
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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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